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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/803,201

03/18/2004

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081468-0308088

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01/21/2010

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EXAMINER

KIKNADZE, IRAKLI

ART UNIT

PAPER NUMBER

2882

MAIL DATE

DELIVERY MODE

01/21/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/803,201 | <b>Applicant(s)</b><br>SHMAENOK, LEONID |  |
|                              | <b>Examiner</b><br>IRAKLI KIKNADZE   | <b>Art Unit</b><br>2882                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-68 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 5-11 and 15-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. In response to the Notice to the applicant regarding a non-compliant or non-responsive amendment mailed on June 2, 2009 the Amendment has been received on June 19, 2009.

Claims 11, 21, 35, 53 and 65 have been amended.

Claims 1-68 are currently pending in this application.

2. The indicated allowability of claims 1-4 is withdrawn in view of the newly discovered reference(s) to Hase et al. (US Patent 5,099,134). Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hase et al. (US Patent 5,099,134).

With respect to claim 1, Hase teaches an apparatus (Figs. 8, 14, 24) comprising a radiation source (F) and a processing organ for processing radiation from the radiation source, wherein a filter for suppressing undesired atomic and microscopic particles is placed between the radiation source and the processing organ, which filter comprises a plurality of foils or plates having surfaces for trapping atomic and microscopic particles thereon, wherein each foil or plate essentially points in a radial direction when viewed from the radiation source (see abstract).

Claim limitations that employ phrase “for doing something” and specifically with respect to claim 1 “for trapping atomic and microscopic particles thereon” is a typical of claim limitations which may not distinguish over the prior art. It has been held that recitation that an element is for doing something is not a positive limitation but only requires the ability to so perform. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. In this case Hase et al. clearly teaches all of the structural limitations that are claimed in claim 1.

With respect to claim 12, Hase teaches (see Figs. 6, 10, 11, 14, 37) a filter for suppressing undesired atomic and microscopic particles which are emitted by a radiation source (F), wherein a plurality of plates are positioned substantially parallel in relation to one another, for trapping atomic and microscopic particles on their respective surfaces, wherein the plates are directed away from the radiation source (see abstract; claim 1).

Claim limitations that employ phrase “for doing something” and specifically with respect to claim 12 “for trapping atomic and microscopic particles on their respective surfaces” is a typical of claim limitations which may not distinguish over the prior art. It has been held that recitation that an element is for doing something is not a positive limitation but only requires the ability to so perform. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. In this case Hase et al. clearly teaches all of the structural limitations that are claimed in claim 12.

With respect to claims 2 and 13, Hase teaches the apparatus, wherein the foils or plates are positioned in a honeycomb construction (see Figs. 23 and 26).

With respect to claim 3, Hase teaches that the foils or plates are coneshaped and are positioned concentrically.

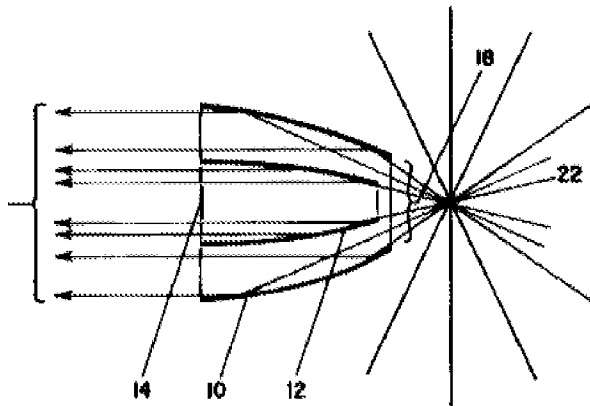
With respect to claims 4 and 14, Hase teaches that the foils or plates are positioned such as to be evenly distributed in relation to one another (Figs. 1 and 2).

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Hara (US Patent 5,768,339).

With respect to claim 1, O'Hara teaches an apparatus (Figs. 1 and 2 A-B) comprising a radiation source (22) and a processing organ for processing radiation from the radiation source, wherein a filter for suppressing undesired atomic and microscopic particles is placed between the radiation source and the processing organ, which filter

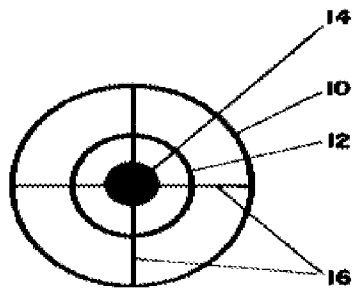
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comprises a plurality of foils or plates having surfaces for trapping atomic and microscopic particles thereon, wherein each foil or plate essentially points in a radial direction when viewed from the radiation source (see abstract).



**FIG. 1**

With respect to claim 3, Hase teaches that the foils or plates are coneshaped and are positioned concentrically (Fig. 2A).



**FIG. 2a**

Claim limitations that employ phrase “for doing something” and specifically with respect to claim 1 “for trapping atomic and microscopic particles thereon” is a typical of claim limitations which may not distinguish over the prior art. It has been held that recitation that an element is for doing something is not a positive limitation but only requires the ability to so perform. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. In this case O’Hara et al. clearly teaches all of the structural limitations that are claimed in claims 1 and 3.

***Allowable Subject Matter***

6. Claims 5-11 and 15-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 22-68 allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

With respect o claims 5-8, prior art fails to teach or make obvious the apparatus according to claim 1, wherein the radiation source and the processing organ are placed in a buffer gas, and wherein a distance between the radiation source and a proximal end of the filter in relation to the radiation source is selected subject to a pressure and a type of buffer gas as claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claims 9 and 10, prior art fails to teach or make obvious the apparatus according to claim 1, wherein the number of plates in the filter is adjusted subject to a thickness of each plate and a desired optical transparency of the filter as determined by the formula  $(d/(d+d_f)) \times 100\%$  in which  $d$ =a distance between two plates of the filter at a proximal side of the filter; and  $d_f$ =a thickness of a plate of the filter as claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claim 11, prior art fails to teach or make obvious the apparatus according to claim 1, wherein a surface of the plates is roughened to increase suppression of the undesired atomic and microscopic particles as claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claims 15 and 16, prior art fails to teach or make obvious the filter according to claim 12, wherein the filter is to be disposed in a buffer gas, and wherein a distance between the radiation source and a proximal end of the filter in relation to the radiation source is selected subject to a pressure and a type of the buffer gas as



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claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claim 17 and 18, prior art fails to teach or make obvious the filter according to claim 12, wherein a length of the filter, which is the distance between a proximal end of the filter and a distal end of the filter in relation to the radiation source, is selected subject to a pressure of a buffer gas, in which the filter is to be disposed, and a form of the filter as claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claim 19 and 20, prior art fails to teach or make obvious the apparatus according to claim 12, wherein the number of plates in the filter is adjusted subject to a thickness of each plate and a desired optical transparency of the filter as determined by the formula  $(d/(d+d_f)) \times 100\%$  in which  $d$ =a distance between two plates of the filter at a proximal side of the filter; and  $d_f$ =a thickness of a plate of the filter as claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claims 22-32, prior art fails to teach or make obvious a filter to suppress undesired atomic and microscopic particles from a radiation source, the filter comprises a plurality of foils or plates having a surface configured to trap atomic and microscopic particles thereon, wherein each foil or plate essentially extends away from the radiation source in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claim 40-60, prior art fails to teach or make obvious a lithographic apparatus, comprising: a filter comprising a plurality of foils or plates having a surface configured to trap thereon atomic and microscopic particles from a radiation source, wherein each foil or plate essentially extends away from the radiation source; and at least one optical element configured to receive radiation from the radiation source via the filter in combination with all of the remaining limitations of the base claim and any intervening claims.

With respect o claim 61-68, prior art fails to teach or make obvious a radiation source system, comprising: an extreme ultraviolet radiation plasma source; and a filter to suppress undesired atomic and microscopic particles comprising a plurality of foils or plates having a surface configured to trap thereon atomic and microscopic particles from the plasma source, wherein each foil or plate essentially extends away from the plasma source in combination with all of the remaining limitations of the base claim and any intervening claims.

### ***Response to Arguments***

9. Applicant's arguments, see pages 4-7, filed July 9, 2008, with respect to claims 1-68 have been fully considered. The rejection of claim 21, 35, 53 and 65 has been withdrawn. Claims 22-68 are allowed and claims 5-11 are 15-21 are remaining objected.

10. With respect to claims 1-4 and 12-14 claiming the limitations that employ phrase “for doing something” are the typical of claim limitations which may not distinguish over the prior art. It has been held that recitation that an element is for doing something is not a positive limitation but only requires the ability to so perform. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRAKLI KIKNADZE whose telephone number is (571)272-2493. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Irakli Kiknadze

/Irakli Kiknadze/

Primary Examiner, Art Unit 2882

/I. K./ January 18, 2010